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Labs21 and the Energy Policy Act of 2005

Summary of the Labs21 Breakfast Session

Portland, Oregon

Wednesday, October 19, 2005

At the Laboratories for the 21st Century (Labs21) 2005 Annual Conference, held in Portland, Oregon, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) co-hosted a breakfast session entitled, *Federal Roundtable: Labs21 and the Energy Policy Act of 2005*. The primary goal of this one-hour session was to provide a summary of the recently signed Energy Policy Act of 2005 (EPAct 2005), and create a forum for open discussion concerning the opportunities for, and challenges of, meeting the requirements of the legislation, and potential methods of integrating the Labs21 approach. EPA and DOE also provided a brief overview of the recently issued Presidential Memorandum on Federal Energy Use (Memo), and solicited feedback from attendees regarding the various approaches being considered to reduce energy consumption during the upcoming winter heating season. This session was moderated by Dan Amon, National Energy Manager, EPA (202 564-7509 or amon.dan@epa.gov) and Will Lintner, Labs21 Program Manager, DOE (202 586-3120 or william.lintner@ee.doe.gov).

Approximately 75 people attended the breakfast session, including representatives from:

- EPA (Headquarters and Regions)
- DOE (Headquarters and national laboratories)
- U.S. Department of Agriculture (USDA)
- U.S. Food and Drug Administration (FDA)
- Universities
- Architectural firms
- Engineering firms
- Pharmaceutical companies

Key Points

Following are the key points discussed during the breakfast session about EPAct 2005 and the Memo. To review the complete EPAct 2005 text, visit <www.labs21century.gov/links/epact.htm>. To view the complete text of the Memo, visit <www.whitehouse.gov/news/releases/2005/09/print/20050926-4.html>.

EPAct 2005

- **Annual goal requirement**—Although final DOE guidance has not yet been developed, it appears as though agencies will be required to report progress in meeting the annual 2 percent energy reduction goal each year (as opposed to just being held to the FY2015 goal).
- **Reporting necessary funding**—Agencies will likely be required to include in their annual reports to DOE the funding spent each year to meet the annual energy reduction goals included in EPAct 2005.
- **Metering**—DOE is still developing the final guidance for required advanced onsite metering at federal facilities.
- **Categorization of facilities**—As part of its final guidance, DOE is considering combining laboratories and industrial facilities with standard buildings. This represents a change from the previous federal energy reduction mandates included in Executive Order 13123, where laboratories and industrial facilities were considered separate and were issued more lenient energy reduction goals than standard buildings.

- **Federal green building requirements**—As part of EPAct 2005, all new federal buildings must be designed to achieve energy consumption levels that are at least 30 percent below the current ASHRAE standard.
- **Open discussion topics**
  - **Feasibility of green building requirement**—Mr. Amon asked the audience for feedback regarding whether or not the new green building requirements included in EPAct 2005 are feasible. Several attendees stated that designing a federal facility that uses at least 30 percent less energy than the current ASHRAE standard will be extremely difficult, but that it is a good idea to make the federal government stretch to meet aggressive goals. During this discussion, Mr. Lintner added that the EPAct 2005 Interagency Workgroup is considering allowing federal agencies to use the U.S. Green Building Council (USGBC) LEED™ practice of discounting plug loads when modeling a building's energy performance. Mr. Lintner noted that this practice could increase a building's modeled energy performance from 25 percent below ASHRAE, to 35 percent below.
  - **Difficulty changing employee behavior**—Several attendees noted that it is difficult to change the behavior of employees working in federal facilities, from turning off computers at night to curtailing the use of personal space heaters. During this open discussion, attendees provided a **number of potential solutions** to this hurdle, including:
    - Get involvement and buy-in from senior headquarters staff and lab directors.
    - Inform employees on how their individual actions help achieve collective positive results.
    - Use a combination of peer pressure and incentives (e.g., EPA distributes a quarterly report to all laboratory managers illustrating how each laboratory's energy performance compares to that of the other laboratories).
    - Install temperature controls for individual workspaces to help regulate office comfort.
    - Facility staff need to make buildings work properly before asking staff to make changes to their everyday behavior.
  - **Labor cost**—One attendee expressed that the largest cost to an organization is the cost of its employees. If staff are distracted by uncomfortable working conditions in an effort to save energy, it may reduce their productivity, resulting in a significant financial drain on the organization that may outweigh utility cost savings associated with energy use reductions.
  - **Questions about ESPCs**—Attendees with questions about Energy Savings Performance Contracts (ESPCs) should contact either Mr. Amon or Will Lintner. Mr. Amon also directed attendees to the Labs21 case study of EPA's Ann Arbor ESPC, which can be found at <www.labs21century.gov/pdf/cs_nvfel_508.pdf>.

Presidential Memorandum on Federal Energy Use

- **Scope of Memo**—The moderator noted that the Memo focuses only on new and incremental actions to reduce federal energy use for the upcoming winter heating season (covering November 1, 2005 through April 30, 2006), and requires each federal agency to submit a "best estimate" of energy savings. The moderator added that the Memo focuses primarily on natural gas and vehicle fuels.
- **Current strategies for energy reduction**—During an open discussion, attendees discussed some energy saving strategies currently being considered, including:
  - Temperature setback (from 72°F to 68°F).
  - Restricting personal space heaters.
  - Use of emergency lighting levels in hallways.
  - Increasing the thermostat "deadband," which can lead to greater savings than temperature setbacks.
  - Mandatory four-day workweeks.
  - Conductivity meters on boilers.

- **BAS audits**—Several attendees expressed concerns that ongoing operations and maintenance (O&M), particularly the use of building automation systems (BAS), is often the weak link in the energy saving process. An EPA representative provided an example, noting that some BAS readings at EPA's Research Triangle Park (RTP), North Carolina, laboratory were inaccurate, but are currently being corrected. As a result, the majority of attendees agreed that BAS audits are extremely valuable, although would provide more of a long-term benefit and would not likely lead to any immediate savings for the upcoming winter heating season.
- **Data normalization**—The majority of the attendees agreed that data should be normalized for weather anomalies.